

## Glossary

Tips for Daylighting with Windows

**Altitude** The vertical angular distance of a point in the sky (usually the sun) above the horizon. Altitude is measured positively from the horizon (0°) to the zenith (the point in the sky straight overhead, 90°).

**Ambient Lighting** General illumination.

**Azimuth** The horizontal angular distance between the vertical plane containing a point in the sky (usually the sun) and true south. In other words, the angle of sun from true south as seen in plan view.

**Baffle** A single opaque or translucent element used to shield a source from direct view at certain angles or to absorb unwanted light.

**Ballast** Electrical device which supplies proper voltage, current, and wave form conditions to start and operate discharge lamps (fluorescent, mercury, high intensity discharge).

**Brightness** The subjective perception of luminance.

**Brightness Glare** Glare resulting from high luminances or insufficiently shielded light sources in the field of view. Also called direct glare.

**Candela** A common unit of light output from a source.

**Candlepower** The intensity of light produced by a source, measured in candelas.

**Candlepower Distribution Curve** A diagram plotted on polar coordinates which represents the variations in light output of a source over its area of light distribution. Commonly used in lighting product brochures.

**Color Rendition** The effect of a light source on the color appearance of objects.

**Commissioning** A set of activities conducted during or after the construction phase aimed at verifying that the building, or pieces of its systems, function as designed. This is a comprehensive process of re-viewing design documentation, verifying installation, testing equipment and system performance, training building operators, and analyzing the operation of building systems.

**Contrast Glare** Glare resulting from a large brightness difference in the field of view.

**Cost/Benefit Analysis** Any technique intended to relate the economic benefits of a solution to the costs incurred in providing the solution.

**Cut-Off Angle** The critical viewing angle beyond which a source can no longer be seen because of an obstruction, such as a baffle or overhang.

**Daylight Factor** The ratio of daylight illumination on a horizontal point indoors to the horizontal illumination outdoors, expressed as a percentage. Direct sunlight is excluded.

**Diffuse Lighting** Lighting that does not come from any particular direction.

**Diffuser** Any device that scatters light from a source.

**Discount Rate** A rate used to relate present and future dollars. This is a percentage used to reduce the value of future dollars in relation to present dollars, to account for the time value of money. Discount rate may be the interest rate or the desired rate of return.

**Effective Aperture** The product of visible transmittance and window-to-wall ratio.

**Footcandle** A common unit of illuminance used in the U.S. The metric unit is the lux.

**Footlambert** The U.S. unit for luminance. The metric unit is the nit.

**Glare** The sensation produced by brightness within the visual field that is greater than the brightness to which the eye is adapted and thus causes annoyance, discomfort, or loss in visual performance and visibility.

**Illuminance** Amount of light incident on a surface.

**Indirect Lighting** Lighting achieved by reflection, usually from wall and ceiling surfaces.

**Kilowatt** Unit of electric power (the rate at which energy is used). Equals 1000 Watts.

**Kilowatt-Hour** Unit of energy. Equals 1000 Watt-hours.

**Life Cycle** The period of time between a baseline date and the time horizon, over which future costs or benefits will be incurred.

**Light Shelf** A horizontal element positioned above eye level to reflect daylight onto the ceiling.

**Louver** A series of baffles used to shield a light source from view at certain angles or to absorb some light.

**Lumen** A common unit of light output from a source.

**Luminaire** A complete electric lighting unit including housing, lamp, electrical components, diffusers and focusers. Also called a fixture.

**Luminance** Amount of light coming from a surface; in other words, how bright it is.

**Luminance Ratio** Ratio between different brightnesses in the visual field.

**Lux** The metric unit for illuminance. The U.S. unit is the footcandle.

**Minimum Attractive Rate of Return** The effective annual rate of return on an investment which just meets the investor's threshold of acceptability. It reflects the cost of using resources as well as the potential risk involved with the project.

**Nit** Metric unit for luminance. The U.S. unit is the footlambert.

**Payback Period** Time required for an investment to return its value to the investor.

**Photometer** An instrument for measuring light.

**Present Worth (or Value)** The current value of an amount. Typically used to represent the value today of a future amount, by discounting the future amount to current dollars.

**Rate of Return on Investment** An interest rate which represents a measure of profit from an investment.

**Reflectance** The ratio of energy (light) bouncing away from a surface to the amount striking it, expressed as a percentage.

**Reflected Glare** Glare resulting from mirror-like reflections in shiny surfaces.

**Shading Coefficient** the ratio of the total solar heat gain through a window to that through 1/8" (3 mm) clear glass.

**Solar Heat Gain Coefficient** Solar heat gain through the total window system relative to the incident solar radiation.

**Task Lighting** Light provided for a specific task, versus general or ambient lighting.

**Transmittance** The ratio of energy (light) passing through a surface to the amount striking it, expressed as a percentage.

**Veiling Reflection** A condition where light reflected from a surface masks the details of that surface. A common occurrence when glossy magazines are read under bright, direct lighting.

**Visual Acuity** A measure of the ability to distinguish fine details.

**Visual Comfort Probability** Rating of a lighting system expressed as a percentage of the people who will find it free of discomfort glare.

**Visual Field** What can be seen when head and eyes are kept fixed.

**Visual Performance** The quantitative assessment of a visual task, taking into consideration speed and accuracy.

**Watt** Unit of power.

**Watt-Hour** Unit of energy.

**Workplane** The plane at which work is performed, usually taken as horizontal and at desk height (30") from the floor.